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FILE LAST UPDATED: 10 Jul 2008 (20080710/ED)

HCAPLUS now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s hirst j/au  
L1 35 HIRST J/AU  
  
=> e hirst j/au  
E1 2 HIRST IAN D/AU  
E2 1 HIRST IAN J/AU  
E3 35 --> HIRST J/AU  
E4 7 HIRST J A/AU  
E5 1 HIRST J C/AU  
E6 6 HIRST J D/AU  
E7 1 HIRST J E/AU  
E8 4 HIRST J F/AU  
E9 14 HIRST J J/AU  
E10 6 HIRST J M/AU  
E11 1 HIRST J N/AU  
E12 1 HIRST J P/AU

=> s e3  
L2 35 "HIRST J"/AU

=> d scan ibib 1-35  
'1-35' IS NOT A VALID FORMAT FOR FILE 'HCAPLUS'

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 71-10 (Nuclear Technology)  
Section cross-reference(s): 48  
TI Handling high activity components on the SNS

ST spallation neutron source active component remote handling design  
 IT Materials handling  
     (handling of highly active components at spallation neutron source)  
 IT Proton accelerators  
     (neutron generators; handling of highly active components at spallation neutron source)  
 IT Neutron generators  
     (proton accelerators; handling of highly active components at spallation neutron source)  
 IT Nuclear reactions  
     (spallation; handling of highly active components at spallation neutron source)

The following are valid formats:

ABS ----- GI and AB  
 ALL ----- BIB, AB, IND, RE  
 APPS ----- AI, PRAI  
 BIB ----- AN, plus Bibliographic Data and PI table (default)  
 CAN ----- List of CA abstract numbers without answer numbers  
 CBIB ----- AN, plus Compressed Bibliographic Data  
 CLASS ----- IPC, NCL, ECLA, FTERM  
 DALL ----- ALL, delimited (end of each field identified)  
 DMAX ----- MAX, delimited for post-processing  
 FAM ----- AN, PI and PRAI in table, plus Patent Family data  
 FBIB ----- AN, BIB, plus Patent FAM  
 IND ----- Indexing data  
 IPC ----- International Patent Classifications  
 MAX ----- ALL, plus Patent FAM, RE  
 PATS ----- PI, SO  
 SAM ----- CC, SX, TI, ST, IT  
 SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;  
           SCAN must be entered on the same line as the DISPLAY,  
           e.g., D SCAN or DISPLAY SCAN)  
 STD ----- BIB, CLASS  
  
 IABS ----- ABS, indented with text labels  
 IALL ----- ALL, indented with text labels  
 IBIB ----- BIB, indented with text labels  
 IMAX ----- MAX, indented with text labels  
 ISTD ----- STD, indented with text labels  
  
 OBIB ----- AN, plus Bibliographic Data (original)  
 OIBIB ----- OBIB, indented with text labels  
  
 SBIB ----- BIB, no citations  
 SIBIB ----- IBIB, no citations  
  
 HIT ----- Fields containing hit terms  
 HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
           containing hit terms  
 HITRN ----- HIT RN and its text modification  
 HITSTR ----- HIT RN, its text modification, its CA index name, and  
           its structure diagram  
 HITSEQ ----- HIT RN, its text modification, its CA index name, its  
           structure diagram, plus NTE and SEQ fields  
 FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
           its structure diagram  
 FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
           structure diagram, plus NTE and SEQ fields

KWIC ----- Hit term plus 20 words on either side

OCC ----- Number of occurrence of hit term and field in which it occurs

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HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):all  
'ALL' IS NOT VALID HERE

To display more answers, enter the number of answers you would like to see. To end the display, enter "NONE", "N", "0", or "END".

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):34

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 6-1 (General Biochemistry)  
Section cross-reference(s): 9  
TI Voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase: comparison with the enzyme from beef heart mitochondria  
ST succinate dehydrogenase electron transport Escherichia mitochondria; voltammetry succinate dehydrogenase electron transport Escherichia  
IT Protein sequences  
    (alignment; voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase in relation to the enzyme from beef heart mitochondria)  
IT Electrode reaction  
    Electron transport  
    Redox potential  
    Reduction potential  
    Voltammetry  
    pH  
        (voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase in relation to the enzyme from beef heart mitochondria)  
IT 9002-02-2, Succinate dehydrogenase  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)  
    (voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase in relation to the enzyme from beef heart mitochondria)  
IT 110-15-6, Butanedioic acid, biological studies 110-17-8, 2-Butenedioic acid (2E)-, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
    (voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase in relation to the enzyme from beef heart mitochondria)  
IT 146-14-5, Fad  
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)  
    (voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase in relation to the enzyme from

beef heart mitochondria)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 20-3 (History, Education, and Documentation)

Section cross-reference(s): 40

TI A chromatographic investigation of industrial dyes  
ST dye chromatog lab expt

IT Dyes  
(TLC of, laboratory experiment in)

IT Laboratory experiment  
(in TLC of dyes)

IT Chromatography, thin-layer  
(of dyes)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Effect of electron-withdrawing substituents from the meta and para  
positions in aromatic nucleophilic replacement reactions  
ST arom nucleophilic substitution; fluorobenzenes substitution; kinetics  
substitution fluorobenzenes

IT Kinetics of methanolysis  
(of fluorobenzene derivs.)

IT Substituent effect  
(of fluorobenzene derivs., methanolysis in relation to)

IT 401-80-9 402-44-8 455-15-2 657-46-5 35564-19-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(methanolysis of, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Aromatic nucleophilic replacement. XVI. Reactions of o-fluoro- and  
p-fluoronitrobenzene and 1-fluoro-3,5-dinitrobenzene with sulfite ions,  
and of o- and p-fluoronitrobenzene with isopropoxide ions

ST sulfite ion fluoronitrobenzene reaction; isopropoxide ion  
fluoronitrobenzene reaction; fluoronitrobenzene reaction isopropoxide ion

IT Entropy  
(of activation, of substitution reactions of fluoronitrobenzene  
derivs.)

IT Activation energy of substitution reactions

Kinetics of substitution reactions

Substitution reactions

(of fluorine by sulfite ion in fluoronitrobenzene derivs.)

IT Isopropoxy group

(substitution reactions of, for fluorine in fluoronitrobenzene derivs.)

IT 7782-41-4, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(substitution reactions of, by sulfite ion in fluoronitrobenzene  
derivs.)

IT 14265-45-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(substitution reactions of, for fluorine in fluoronitrobenzene derivs.)

IT 350-46-9 369-18-6 1493-27-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(substitution reactions of, mechanism of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Aromatic nucleophilic replacement. XIII. Reactions of nitroanilines with  
picryl chloride in methanol

ST arom nucleophilic substitution; nucleophilic substitution arom; nitro  
anilines picryl chloride; picryl chloride nitro anilines; anilines nitro

IT picryl chloride  
IT Activation energy  
    (of aniline nitro derivs. reaction with picryl chloride)  
IT Kinetics, reaction  
    (of aniline nitro derivs. with picryl chloride)  
IT 99-09-2P  
    RL: SPN (Synthetic preparation); PREP (Preparation)  
        (preparation of)  
IT 88-88-0  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with aniline nitro derivs.)  
IT 100-01-6 618-87-1  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (reaction of, with picryl chloride)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)  
TI Aromatic nucleophilic substitution. XI. Effect of meta substituents  
ST NUCLEOPHILIC REPLACEMENT; META SUBSTITUENT EFFECT; REPLACEMENT  
    NUCLEOPHILIC; SUBSTITUENT META EFFECT; EFFECT META SUBSTITUENT  
IT Activation energy  
    Kinetics, reaction  
        (of 1-fluoro-3-nitrobenzene derivs. with methoxide ion)  
IT 369-18-6 402-67-5 454-72-8 454-73-9 499-08-1 2265-94-3  
    2369-12-2 3819-88-3 4815-64-9 7087-27-6 7087-60-7 7087-61-8  
    7087-65-2 14027-75-9  
    RL: PRP (Properties)  
        (reaction with methoxide ion, kinetics of)  
IT 3315-60-4, reactions  
    RL: RCT (Reactant); RACT (Reactant or reagent)  
        (with 1-fluoro-3-nitrobenzene derivs., kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 32 (Physical Organic Chemistry)  
TI Aromatic nucleophilic substitution. IX. The reaction of  
    1-halo-2,4-dinitrobenzenes with sulfite ion in aqueous ethanol  
IT Activation energy, Heat of activation  
    Frequency factor, Preexponential factor  
        (of 1-halo-2,4-dinitrobenzene reaction with sulfites)  
IT Reaction kinetics and(or) Velocity  
    (of 1-halo-2,4-dinitrobenzenes with sulfites)  
IT Sulfites  
    (reaction with 1-halo-2,4-dinitrobenzenes)  
IT 64-17-5, Ethyl alcohol  
    (1-halo-2,4-dinitrobenzene reaction with sulfites in)  
IT 97-00-7, Benzene, 1-chloro-2,4-dinitro-  
    (reaction of, with sulfite ion)  
IT 70-34-8, Benzene, 1-fluoro-2,4-dinitro- 100-00-5, Benzene,  
    1-chloro-4-nitro- 584-48-5, Benzene, 1-bromo-2,4-dinitro- 709-49-9,  
    Benzene, 1-iodo-2,4-dinitro-  
        (reaction with sulfite ion)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 10J (Organic Chemistry: Steroids)  
TI West African timbers. III. Petroleum extracts from the genus  
    Entandrophragma  
IT Wood  
    (West African)  
IT Nomenclature  
    (``angolensis acid'', ``entandrophragmin'' and ``gedunin'')  
IT Entandrophragma

IT (ligroine exts. of)  
IT Infrared spectra  
Ultraviolet and visible, spectra  
(of carda-1,4,20(22)-trienolides and intermediates)  
IT Infrared spectra  
Ultraviolet and visible, spectra  
(of Entandrophragma ligroine extractives)  
IT 31218-22-1, Utilin  
(from Entandrophragma heartwood)  
IT 83-46-5,  $\beta$ -Sitosterol 2629-14-3, Angolensic acid, methyl ester  
2753-30-2, Gedunin 3242-10-2, Angolensic acid  
(in Entandrophragma ligroine extracts)  
IT 11013-05-1, Entandrophragmin  
(in Entandrophragma ligroine exts.)  
IT 2629-11-0P, Oxireno[cl]phenanthro[1,2-d]pyran-3,8(3aH,4bH)-dione,  
5-(acetyloxy)-1-(3-furanyl)dodecahydro-4b,7,7,10a,12a-pentamethyl-  
101295-12-9P, 5 $\beta$ -Carda-1,20(22)-dienolide, 14-hydroxy-3-oxo-  
116956-84-4P, Carda-4,20(22)-dienolide, 14,16 $\beta$ -(dihydroxy-3-oxo-  
117000-03-0P, 5 $\beta$ -Carda-1,20(22)-dienolide, 14,16 $\beta$ -dihydroxy-3-  
oxo- 119186-29-7P, Carda-1,4,20(22)-trienolide, 14,16 $\beta$ -dihydroxy-3-  
oxo-, 16-acetate 119248-83-8P, Carda-1,4,20(22)-trienolide,  
14,16 $\beta$ -dihydroxy-3-oxo- 122174-94-1P, 5 $\beta$ -Carda-1,20(22)-  
dienolide, 14,16 $\beta$ -dihydroxy-3-oxo-, 16-acetate 122174-95-2P,  
Carda-4,20(22)-dienolide, 14,16 $\beta$ -(dihydroxy-3-oxo-, 16-acetate  
RL: PREP (Preparation)  
(preparation of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 10 (Organic Chemistry)  
TI Studies in aromatic nucleophilic replacement. VI. Some effects of alkyl  
groups  
IT Substitution  
(aromatic)  
IT Alkyl groups  
(effect on aromatic nucleophilic substitution)  
IT Steric effects or Steric factors  
(in alkylfluoronitrobenzenes)  
IT Frequency factor  
(of replacement of F in benzene derivs. of MeO)  
IT Reaction kinetics and(or) velocity  
(of substitution (nucleophilic), of F in benzene derivs. by MeO)  
IT Methoxy group  
(reactions of, with alkylfluoronitrobenzene, kinetics of)  
IT Benzene, 1-tert-butyl-2-fluoro-2-nitro-  
Benzene, 1-tert-butyl-4-fluoro-4-nitro-  
Toluene, 2-fluoro-2-nitro-  
Toluene, 4-fluoro-4-nitro-  
RL: PREP (Preparation)  
IT 19878-55-8, Benzenesulfonic acid, 4,4'-thiodi-  
(derivs.)  
IT 446-10-6P, Toluene, 4-fluoro-2-nitro- 454-72-8P, Benzene,  
1-tert-butyl-3-fluoro-5-nitro- 489-18-9P, Benzene, 1-tert-butyl-2-fluoro-  
4-nitro- 499-08-1P, Toluene, 3-fluoro-5-nitro- 610-18-4P, Benzene,  
1-tert-butyl-4-fluoro-2-nitro- 621-85-2P, Pseudourea, 2-benzyl-2-thio-,  
compds. with o-(phenylthio)benzenesulfinic acid and  
(phenylthio)benzenesulfonic acids 1427-07-2P, Toluene, 2-fluoro-4-nitro-  
22385-63-3P, Benzene, 1-tert-butyl-3,5-dinitro- 22503-15-7P,  
Acetanilide, 4'-tert-butyl-2',6'-dinitro- 102316-81-4P, Benzenesulfinic  
acid, o-(phenylthio)-, compound with 2-benzyl-2-thiopseudourea  
103392-84-3P, Aniline, 2-tert-butyl-5-nitro- 105336-94-5P, Acetanilide,  
3'-tert-butyl-5'-nitro- 110245-61-9P, Benzenesulfonic acid,

o-(phenylthio)-, compound with 2-benzyl-2-thiopseudourea 500878-03-5P,  
Aniline, 3-tert-butyl-5-nitro-  
RL: PREP (Preparation)  
(preparation of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 10 (Organic Chemistry)  
TI Nucleophilic activity towards an aromatic carbon atom  
IT Substitution  
(nucleophilic, in benzene ring)  
IT Reaction kinetics and(or) velocity  
(of substitution (nucleophilic), in benzene derivs.)  
IT Benzene ring  
(substitution in, nucleophilic)  
IT 71-43-2, Benzene  
(derivatives, substitution (nucleophilic) in)  
IT 350-46-9, Benzene, 1-fluoro-4-nitro-  
(reaction with nucleophilic reagents, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-0 (Enzymes)  
TI Energy transduction by respiratory complex I - an evaluation of current  
knowledge  
ST review energy transduction respiratory complex I; mitochondria electron  
transport complex review  
IT Electron transport system, biological  
(mechanism and energy transduction by respiratory complex I)  
IT 9028-04-0, Complex I (mitochondrial electron transport)  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(mechanism and energy transduction by respiratory complex I)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 2-0 (Mammalian Hormones)  
TI Myometrial activation and preterm labour: evidence supporting a role for  
the prostaglandin F receptor-a review  
ST review myometrium preterm labour prostaglandin F receptor  
IT Uterus  
(myometrium; role of prostaglandin F receptor in myometrial activation  
and preterm labour)  
IT Parturition disorders  
(premature parturition; role of prostaglandin F receptor in myometrial  
activation and preterm labour)  
IT Human  
(role of prostaglandin F receptor in myometrial activation and preterm  
labour)  
IT Prostanoid receptors  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(type FP; role of prostaglandin F receptor in myometrial activation and  
preterm labour)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 2-0 (Mammalian Hormones)  
TI Prostaglandins and parturition  
ST review prostaglandin amnion parturition; synthase prostaglandin H  
parturition review  
IT Amnion  
Parturition  
(prostaglandins and prostaglandin H synthase of human amnion in  
periparturient period)  
IT Prostaglandins  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)  
(prostaglandins and prostaglandin H synthase of human amnion in periparturient period)

IT 39391-18-9, Prostaglandin H synthase  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(prostaglandins and prostaglandin H synthase of human amnion in periparturient period)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22-3 (Physical Organic Chemistry)

TI Kinetics of the reactions of piperidine, n-butylamine, morpholine, and benzylamine with 2,4-dinitrophenyl phenyl ether

ST amine substitution nitrophenyl ether; kinetics amination nitrophenyl ether

IT Kinetics of amination  
(of dinitrophenyl Ph ether)

IT 100-46-9, reactions 109-73-9, reactions 110-89-4, reactions 110-91-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination by, of dinitrophenyl Ph ether, kinetics of)

IT 2486-07-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination of, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Ortho:para ratio in aromatic nucleophilic substitution

ST arom nucleophilic substitution; nucleophilic substitution arom; ortho activation nucleophilic substitution; para activation nucleophilic substitution; substituent effect arom nucleophilic substitution

IT Substituents  
(in benzene derivs., substitution reaction with methoxide in relation to)

IT Kinetics of substitution reactions  
(of methoxide with benzene derivs., substituent effect in)

IT 3315-60-4, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with benzene derivs., kinetics of, substituent effect in)

IT 350-46-9 446-35-5 1493-27-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(substitution reaction of, with methoxide, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Kinetics of some of the reactions of 2-fluoro- and 2-chloro-5-nitro-pyridines and 1-fluoro- and 1-chloro-2,4-dinitrobenzenes with aniline and piperidine in acetone and methanol

ST nitropyridine aniline reaction; aniline nitropyridine reaction; pyridines nitro aniline reaction; benzenes nitro aniline reaction; arom nucleophilic reaction; nucleophilic arom reaction

IT Kinetics, reactions  
(of amines with dinitrobenzene and nitropyridine halo derivs.)

IT Activation energy  
(of aniline reactions with nitropyridine halo derivs.)

IT 70-34-8 97-00-7 456-24-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with amines)

IT 4548-45-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with aniline)

IT 62-53-3, reactions 110-89-4, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(with dinitrobenzene and nitropyridine halo derivs., kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)  
TI Aromatic nucleophilic replacement. XII. Reaction of 1-halo-2,4-dinitrobenzenes and 2-halo-5-nitropyridines with amines in acetone  
ST nucleophilic amines halo benzenes; amines halo benzenes nucleophilic; halo benzenes nucleophilic amines; benzenes nucleophilic amines halo; pyridines halo amines  
IT Activation energy  
(of amine reactions with halodinitrobenzene derivs.)  
IT Kinetics, reaction  
(of amines with halodinitrobenzene derivs.)  
IT Pyridine, with halodinitrobenzene derivs., reactions  
RL: PRP (Properties)  
(kinetics of)  
IT 70-34-8 97-00-7 456-24-6 4548-45-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with amines, kinetics of)  
IT 62-53-3, reactions 110-89-4, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(with halodinitrobenzene derivs., kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 32 (Physical Organic Chemistry)  
TI Effect of meta-substituents on aromatic nucleophilic substitution  
IT Substituents  
(fluorobenzene derivative reaction with methoxide ion in relation to)  
IT Reaction kinetics and(or) Velocity  
Substitution reactions  
(of fluoro benzenes with methoxide ion)  
IT Methoxides  
(reaction with fluorobenzene)  
IT 71-43-2, Benzene  
(derivatives, fluoro, reaction with methoxide ion, effect of substituents on)  
IT 4815-64-9, Benzene, 1-chloro-3-fluoro-5-nitro-  
(reaction with methoxide ion kinetics of)  
IT 454-73-9, Toluene,  $\alpha,\alpha,\alpha,3$ -tetrafluoro-5-nitro-  
2265-94-3, Benzene, 1,3-difluoro-5-nitro- 2369-12-2, Aniline,  
3-fluoro-5-nitro- 3819-88-3, Benzene, 1-fluoro-3-iodo-5-nitro-  
7087-27-6, Sulfone, 3-fluoro-5-nitrophenyl methyl 7087-60-7, Anisole,  
3-fluoro-5-nitro- 7087-61-8, Acetophenone, 3'-fluoro-5'-nitro-  
7087-65-2, Benzene, 1-bromo-3-fluoro-5-nitro- 14027-75-9, Benzoic acid,  
3-fluoro-5-nitro-  
(reaction with methoxide ion, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 32 (Physical Organic Chemistry)  
TI Hydrogen bonding in the transition state of aromatic nucleophilic replacement  
IT Substitution reactions  
(in aromatic compds., H bonding and)  
IT Hydrogen bonds  
(in aromatic compds., nucleophilic displacement reactions and)  
IT Reaction kinetics and(or) Velocity  
(of aniline and pyridine with 2-chloro-1,3-dinitrobenzene and 2-fluoro-1,3-dinitrobenzene)  
IT 71-43-2, Benzene  
(derivatives, halo, displacement reactions of, H bonds and)

IT 62-53-3, Aniline  
(reaction of, with 2-chloro-1,3-dinitrobenzene and 2-fluoro-1,3-dinitrobenzene, kinetics of)

IT 110-86-1, Pyridine  
(reaction with 2-chloro-1,3-dinitrobenzene and 2-fluoro-1,3-dinitrobenzene, kinetics of)

IT 573-55-7, Benzene, 2-fluoro-1,3-dinitro- 606-21-3, Benzene, 2-chloro-1,3-dinitro-  
(reaction with PhNH<sub>2</sub> and pyridine, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 11D (Biological Chemistry: Botany)

TI West African timbers. II. Heartwood constituents of the genus Pterocarpus

IT Pterocarpus  
(composition of heartwood of)

IT 524-97-0, Pterocarpin 529-60-2, Isoflavone, 3',4',5-trihydroxy-7-methoxy-  
606-91-7, Homopterocarpin 642-39-7, Propiophenone,  
2',4'-dihydroxy-2-(p-methoxyphenyl)- 4339-72-4, Olean-12-en-28-oic acid,  
3 $\beta$ -hydroxy-, acetate  
(in Pterocarpus heartwood)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 17 (Pharmaceuticals, Cosmetics, and Perfumes)

TI A convulsant alkaloid of *Dioscorea dumetorum*

IT Yams  
(alkaloids of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 14 (Water, Sewage, and Sanitation)

TI Experimental work to improve the performance of a bio-aeration plant for sewage

IT Sewage  
(aeration of, improving performance of plant for)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 3-4 (Biochemical Genetics)

Section cross-reference(s): 14

TI Multiple mechanisms are implicated in the generation of 5q35 microdeletions in Sotos syndrome

ST chromosome 5q35 microdeletion mutation NSD1 Sotos syndrome human

IT Gene, animal  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(NSD1; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

IT Repetitive DNA  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(REPCen, REPtel, REPmid elements; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

IT Disease, animal  
(Sotos syndrome; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

IT Mutation  
(deletion; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

IT Chromosome  
(human 5, q35; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

IT Genetic inheritance  
(paternal; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)  
IT Recombination, genetic  
(rearrangement; repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)  
IT Human  
(repetitive elements and rearrangements of paternally inherited chromosome associated with 5q35 NSD1 microdeletions in Sotos syndrome)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 15-8 (Immunochemistry)  
TI Analysis of single-nucleotide polymorphisms in the interleukin-4 receptor gene for association with inflammatory bowel disease  
ST Crohn disease IL4 receptor genetic polymorphism susceptibility  
IT Intestine, disease  
(Crohn's; nucleotide polymorphisms in IL-4 receptor gene in inflammatory bowel disease)  
IT DNA sequences  
Genetic linkage  
Susceptibility (genetic)  
(nucleotide polymorphisms in IL-4 receptor gene in inflammatory bowel disease)  
IT Interleukin 4 receptors  
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)  
(nucleotide polymorphisms in IL-4 receptor gene in inflammatory bowel disease)  
IT Intestine, disease  
(ulcerative colitis; nucleotide polymorphisms in IL-4 receptor gene in inflammatory bowel disease)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22-4 (Physical Organic Chemistry)  
TI Mechanisms of aromatic nucleophilic substitution reactions in ethyl acetate and tetrahydrofuran  
ST ethyl acetate mechanism nucleophilic substitution; solvent effect mechanism nucleophilic substitution; THF mechanism arom nucleophile substitution  
IT Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aromatic nucleophilic substitution of, with halo- or phenoxydinitrobenzenes, kinetics and mechanism of)  
IT Solvent effect  
(on aromatic nucleophilic substitution reactions of halo- or phenoxydinitrobenzenes with amines)  
IT Substitution reaction, nucleophilic  
(aromatic, of halo- or phenoxydinitrobenzenes with amines, mechanism of)  
IT Kinetics of substitution reaction  
(nucleophilic, aromatic, of halo- or phenoxydinitrobenzenes with amines, solvent effects on)  
IT 70-34-8, 1-Fluoro-2,4-dinitrobenzene 97-00-7 2486-07-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aromatic nucleophilic substitution of, with amines, solvent effects in relation to kinetics and mechanism of)  
IT 100-46-9, Benzenemethanamine, reactions 109-73-9, 1-Butanamine, reactions 110-89-4, Piperidine, reactions 110-91-8, Morpholine, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)

(aromatic nucleophilic substitution reaction of, with halo- or phenoxydinitrobenzenes, kinetics and mechanism of)  
IT 110-89-4, Piperidine, uses and miscellaneous 280-57-9,  
1,4-Diazabicyclo[2.2.2]octane  
RL: PRP (Properties)  
(effect of, on aromatic nucleophilic substitution reactions of amines with halo- or phenoxydinitrobenzenes, solvent effects and)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22-3 (Physical Organic Chemistry)  
TI Ortho-para ratio in aromatic nucleophilic substitution. I.  
ST arom nucleophilic substitution kinetics; nitrobenzene nucleophilic substitution; halobenzene nucleophilic substitution; benzene halonitro substitution kinetics  
IT Substitution reaction  
(nucleophilic, of nitrobenzene halo derivs. with alkoxide ions)  
IT Kinetics of substitution reaction  
(of nitrobenzene halo derivs. with alkoxide ions)  
IT 88-73-3 100-00-5 350-46-9 446-35-5 611-06-3 1493-27-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(nucleophilic substitution of, by alkoxide ions)  
IT 40422-90-0P 40422-91-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 3315-60-4, reactions 15520-32-8 16331-64-9, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(substitution reaction of, with nitrobenzene halo derivs.)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)  
TI Aromatic nucleophilic replacement. XV. Kinetics of the reactions of aniline with 1-fluoro and 1-chloro-2, 4-dinitrobenzenes in anhydrous acetone  
ST halobenzenes reaction aniline; aniline reaction halobenzenes; fluorobenzenes reaction aniline; chlorobenzenes reaction aniline; arom nucleophilic reaction kinetics; nucleophilic reaction kinetics arom; kinetics arom nucleophilic reaction  
IT Kinetics of amination  
(of dinitrobenzene halo derivs.)  
IT Amination  
(of dinitrobenzene halo derivs., mechanism of)  
IT 62-53-3, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination by, of dinitrobenzene halo derivs.)  
IT 70-34-8 97-00-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination of, with aniline, kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 73 (Spectra and Other Optical Properties)  
TI Fluorine nuclear magnetic resonance spectra of some meta-substituted fluorobenzenes  
ST fluorine NMR; NMR F; fluorobenzenes NMR; benzenes fluoro NMR  
IT Defluorination  
(methoxy, of fluorobenzene meta-substituted derivs., N.M.R. in relation to)  
IT Substituent constants  
(of fluorobenzene meta-substituted derivs., N.M.R. in relation to)  
IT Nuclear magnetic resonance  
(of fluorobenzene meta-substituted derivs., substituent consts. in relation to)

IT 462-06-6D, Benzene, fluoro-, derivs.  
RL: PRP (Properties)  
(nuclear magnetic resonance of, substituent consts. in relation to)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 22 (Physical Organic Chemistry)

TI Aromatic nucleophilic replacement. XIV. Mode of transmission of the inductive effect in the benzene ring and the relative activating power of the  $+NMe_2O^-$ ,  $+NMe_3$ , and  $NO_2$  groups in aromatic nucleophilic replacement reactions

ST NUCLEOPHILIC SUBSTITUTION AROM; AROM NUCLEOPHILIC SUBSTITUTION;  
SUBSTITUTION NUCLEOPHILIC AROM

IT Activation energy  
(of methoxide ion reaction with fluoronitroanilines)

IT Kinetics, reaction  
(of methoxide ion with fluoronitroaniline derivs.)

IT 19127-34-5 19127-35-6 19128-26-8 19128-27-9 19128-28-0  
20319-54-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methoxide ion, kinetics of)

IT 3315-60-4, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(with fluoronitroaniline derivs., kinetics of)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 35 (Noncondensed Aromatic Compounds)

TI Aromatic nucleophilic substitution. X. Products of reactions of alkali halides with 1-halo-2,4-dinitrobenzenes and picryl chloride in anhydrous acetone

IT 99-35-4  
(Derived from data in the 7th Collective Formula Index (1962-1966))

IT 67-64-1, Acetone  
(alkali halide reaction with 1-halo-2,4-dinitrobenzene and picryl chloride in presence of)

IT 97-00-7, Benzene, 1-chloro-2,4-dinitro-  
(reaction of, with LiCl)

IT 7447-41-8, Lithium chloride  
(reaction with 1-chloro-2,4-dinitrobenzene)

IT 7681-82-5, Sodium iodide  
(reaction with 1-fluoro-2,4-dinitrobenzene and picryl chloride)

IT 70-34-8, Benzene, 1-fluoro-2,4-dinitro-  
(reaction with NaI)

IT 88-88-0, Benzene, 2-chloro-1,3,5-trinitro-  
(reactions with NaI)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 10E (Organic Chemistry: Benzene Derivatives)

TI Aromatic nucleophilic replacement. VII. The reaction of N,N-dialkyl-p-nitrosoanilines with aqueous-methanolic alkali

IT Activation energy  
(Heat of activation, of reactions, of alkalis with N,N-dialkyl-p-nitrosoanilines)

IT Substitution  
(aromatic)

IT Reaction kinetics and(or) velocity  
(of alkalis with N,N-dialkyl-p-nitrosoanilines)

IT Dielectric constants  
(of methanol-water solvent, effect on alkali reaction with N,N-dialkyl-p-nitrosoanilines)

IT Alkalies  
(reactions of, with N,N-dialkyl-p-nitrosoanilines)

IT 67-56-1, Methanol  
(alkali reaction with N,N-dialkyl-p-nitrosoanilines in aqueous)

IT 7732-18-5, Water  
(effect on alkali reaction with N,N-dialkyl-p-nitrosoanilines)

IT 104-91-6P, Phenol, p-nitroso-  
RL: PREP (Preparation)  
(formation from N,N-dimethyl-p-nitrosoaniline)

IT 120-22-9, Aniline, N,N-diethyl-p-nitroso- 138-89-6, Aniline,  
N,N-dimethyl-p-nitroso- 36479-98-8, Aniline, N-ethyl-N-methyl-p-nitroso-  
(reaction with alkalies)

IT 659-49-4, Aniline, p-nitroso-  
(N,N-dialkyl, reaction with alkalies)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 10 (Organic Chemistry)

TI A convulsant alkaloid of *Dioscorea dumetorum*

IT Yams  
(alkaloid from *D. dumetorum*)

IT Alkaloids  
(from *Dioscorea dumetorum*)

IT Convulsions  
(from *Dioscorea dumetorum* alkaloid)

IT 469-45-4 4135-62-0 108950-53-4 109215-31-8 109405-17-6  
109405-18-7 109438-60-0 109499-09-4 109526-91-2 114984-53-1  
114984-54-2 116179-87-4 124152-44-9 124383-06-8 124383-07-9  
130931-57-6  
(Derived from data in the 6th Collective Formula Index (1957-1961))

IT 96552-66-8, Diiscorine, dihydro-  
(and derivs., alkaloid from *Dioscorea dumetorum* in relation to)

L2 35 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 2 (General and Physical Chemistry)

TI Studies in aromatic nucleophilic substitution. IV. Relative nucleophilic  
powers of common reagents

IT Solvents  
(aromatic nucleophilic substitution and)

IT Chlorides  
(exchange of, with picryl chloride)

IT Substitution  
Substitution  
(of methoxy group in benzene derivs.)

IT Reactivity  
(of reagents with nucleophilic power toward aromatic C atom in MeOH)

IT Heat of activation  
(of substitution (aromatic nucleophilic))

IT Frequency factor  
(of substitution (aromatic nucleophilic) in MeOH)

IT Reaction kinetics and(or) velocity  
(of substitution (nucleophilic aromatic))

IT Methoxy group  
(reaction with p-FC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>)

IT 67-56-1, Methanol  
(effect on aromatic nucleophilic substitution)

IT 7447-41-8, Lithium chloride  
(exchange with picryl chloride)

IT 99-09-2, Aniline, m-nitro-  
(reaction with picryl chloride)

IT 930-69-8, Benzenethiol, sodium derivative  
(reaction with p-FC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>)

IT 62-53-3, Aniline  
(reaction with p-FC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> or picryl chloride)

IT 67-56-1, Methanol  
(substitution (aromatic nucleophilic) in)  
IT 88-88-0, Picryl chloride  
(substitution (aromatic nucleophilic) of, kinetics of)  
IT 97-00-7, Benzene, 1-chloro-2,4-dinitro-  
(substitution (nucleophilic) in)  
IT 350-46-9, Benzene, 1-fluoro-4-nitro-  
(substitution in, kinetics of)

L2 35 ANSWERS HCPLUS COPYRIGHT 2008 ACS on STN  
CC 14 (Water, Sewage, and Sanitation)  
TI Experiments on dewatering humus and activated sludges  
IT Sewage  
(drying sludge and its mixtures with humus and primary and secondary  
sludges)  
IT Humus or Humic substances  
(mixts. with activated sludges, drying)  
IT Fertilizers  
(sewage or sewage sludges as, effect of drying on)

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33599 MODULES  
88029 MODULE  
(MODULE OR MODULES)  
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108511 SUBUNITS  
227292 SUBUNIT  
(SUBUNIT OR SUBUNITS)  
791 SUBCOMPLEX  
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L2 16 L1 AND (MODULE OR SUBUNIT OR SUBCOMPLEX)

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L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 3-3 (Biochemical Genetics)  
Section cross-reference(s): 7, 13  
TI Definition of the nuclear encoded protein composition of bovine heart  
mitochondrial complex I  
ST cattle mitochondria DNA B14 ESSS ubiquinone oxidoreductase transmembrane  
import  
IT Gene, animal  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(for ubiquinone reductase subunit B14.7; nuclear encoded  
protein composition of bovine heart mitochondrial complex I)  
IT Gene, animal  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(for ubiquinone reductase subunit ESSS; nuclear encoded  
protein composition of bovine heart mitochondrial complex I)  
IT Bos taurus  
Protein sequences  
cDNA sequences  
(nuclear encoded protein composition of bovine heart mitochondrial complex  
I)  
IT Biological transport  
(of B14.7 and ESSS subunits; nuclear encoded protein composition  
of bovine heart mitochondrial complex I)  
IT Mitochondria  
(organelle-specific enzyme subunits; nuclear encoded protein  
composition of bovine heart mitochondrial complex I)

IT Protein motifs  
(transmembrane domain, of B14.7 and ESSS subunits; nuclear encoded protein composition of bovine heart mitochondrial complex I)  
IT 9028-04-0, Complex I (NADH: Q1 oxidoreductase)  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(B14.7 and ESSS subunits, genes for; nuclear encoded protein composition of bovine heart mitochondrial complex I)  
IT 481508-21-8 501835-66-1  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(amino acid sequence; nuclear encoded protein composition of bovine heart mitochondrial complex I)  
IT 465948-36-1 494391-25-2  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(nucleotide sequence; nuclear encoded protein composition of bovine heart mitochondrial complex I)

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L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 14-15 (Mammalian Pathological Biochemistry)  
Section cross-reference(s): 6  
TI Reversible Glutathionylation of Complex I Increases Mitochondrial Superoxide Formation  
ST glutathione complex I mitochondria superoxide  
IT Disulfides  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(mixed; reversible glutathionylation of complex I increases mitochondrial superoxide formation)  
IT Mitochondria  
Oxidative stress, biological  
(reversible glutathionylation of complex I increases mitochondrial superoxide formation)  
IT 70-18-8, Glutathione, biological studies 7722-84-1, Hydrogen peroxide, biological studies 9028-04-0, Complex I (mitochondrial electron transport) 11062-77-4, Superoxide 27025-41-8, Glutathione disulfide  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible glutathionylation of complex I increases mitochondrial superoxide formation)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-6 (Enzymes)  
Section cross-reference(s): 13  
TI The post-translational modifications of the nuclear encoded subunits of complex I from bovine heart mitochondria  
ST mitochondria complex I subunit post translational modification  
IT Acetylation  
Myristoylation  
(N-terminal; post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)  
IT Functional groups  
(myristoyl group; post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)  
IT Methylation  
(of histidine residues; post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)  
IT Acetyl group  
Bos taurus  
Heart

Methyl group  
Mitochondria  
Post-translational processing  
(post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)  
IT 71-00-1D, L-Histidine, methylated derivs.  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)  
IT 9028-04-0, Complex I (mitochondrial electron transport)  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(post-translational modifications of nuclear encoded subunits of complex I from bovine heart mitochondria)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-5 (Enzymes)  
TI Bovine complex I is a complex of 45 different subunits  
ST NADH ubiquinone reductase mitochondria complex I subunit compn  
IT Mitochondria  
(bovine mitochondrial complex I/NADH-ubiquinone reductase is a complex of 45 different subunits)  
IT Quaternary structure  
(protein; bovine mitochondrial complex I/NADH-ubiquinone reductase is a complex of 45 different subunits)  
IT 9028-04-0  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(bovine mitochondrial complex I/NADH-ubiquinone reductase is a complex of 45 different subunits)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 3-4 (Biochemical Genetics)  
Section cross-reference(s): 7  
TI An iron-sulfur domain of the eukaryotic primase is essential for RNA primer synthesis  
ST archaea eukaryote primase iron sulfur cluster RNA primer replication  
IT Primers (nucleic acid)  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(RNA; iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is essential for RNA primer synthesis)  
IT Archaea  
Eukaryota  
Saccharomyces cerevisiae  
Sulfolobus solfataricus  
(iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is essential for RNA primer synthesis)  
IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is essential for RNA primer synthesis)  
IT Evolution  
(mol., conservative; iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is essential for RNA primer synthesis)  
IT RNA  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(primer; iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is essential for RNA primer synthesis)  
IT DNA replication  
(replication initiation; iron-sulfur domain of heterodimeric

IT archaeal/eukaryotic primase is essential for RNA primer synthesis)  
7439-89-6D, Iron, -sulfur clusters, biological studies 7704-34-9D,  
Sulfur, -iron clusters, biological studies 64885-96-7, Primase  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(iron-sulfur domain of heterodimeric archaeal/eukaryotic primase is  
essential for RNA primer synthesis)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-4 (Enzymes)  
TI Redox Properties of the [2Fe-2S] Center in the 24 kDa (NQO2)  
Subunit of NADH:Ubiquinone Oxidoreductase (Complex I)  
ST ubiquinone oxidoreductase complex I redox iron sulfur cluster  
IT Cluster compounds  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(iron-sulfur; redox properties of [2Fe-2S] center in 24 kDa (NQO2)  
subunit of NADH:Ubiquinone oxidoreductase (complex I))  
IT Mitochondria  
Redox reaction  
Reduction potential  
(redox properties of [2Fe-2S] center in 24 kDa (NQO2) subunit  
of NADH:Ubiquinone oxidoreductase (complex I))  
IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(redox properties of [2Fe-2S] center in 24 kDa (NQO2) subunit  
of NADH:Ubiquinone oxidoreductase (complex I))  
IT 7439-89-6D, Iron, sulfur cluster 7704-34-9D, Sulfur, iron cluster  
9028-04-0, NADH:Ubiquinone oxidoreductase  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(redox properties of [2Fe-2S] center in 24 kDa (NQO2) subunit  
of NADH:Ubiquinone oxidoreductase (complex I))

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-3 (Enzymes)  
TI Reversible, electrochemical interconversion of NADH and NAD<sup>+</sup> by the  
catalytic (I $\lambda$ ) subcomplex of mitochondrial  
NADH:ubiquinone oxidoreductase (Complex I)  
ST NADH NAD interconversion subcomplex ubiquinone reductase  
mitochondria  
IT Mitochondria  
(reversible, electrochem. interconversion of NADH and NAD by catalytic  
subcomplex of mitochondrial complex I in relation to FMN and  
[2Fe-2S] cluster)  
IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic  
subcomplex of mitochondrial complex I in relation to FMN and  
[2Fe-2S] cluster)  
IT 53-84-9, NAD 58-68-4, NADH 146-17-8, FMN 7439-89-6D, Iron, -sulfur  
clusters 7704-34-9D, Sulfur, -iron clusters 9028-04-0D, Ubiquinone  
reductase, I $\lambda$  subcomplexes  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic  
subcomplex of mitochondrial complex I in relation to FMN and  
[2Fe-2S] cluster)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
IC ICM C12Q001-00  
CC 9-7 (Biochemical Methods)  
Section cross-reference(s): 7  
TI Pyridine nucleotide dehydrogenase based biosensor electrodes  
ST pyridine nucleotide dehydrogenase biosensor electrode  
IT Biosensors  
Electrochemical cells  
Enzyme electrodes  
(pyridine nucleotide dehydrogenase based biosensor electrodes)  
IT 53-59-8, NADP 53-84-9, NAD  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(pyridine nucleotide dehydrogenase based biosensor electrodes)  
IT 4432-31-9, MES 7365-45-9, HEPES 7778-53-2, Potassium phosphate 29915-38-6, TAPS  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(pyridine nucleotide dehydrogenase based biosensor electrodes)  
IT 9028-04-0, NADH ubiquinone oxidoreductase 9032-24-0, E.C.1.11.1.1  
9079-67-8, E.C.1.6.99.3 111590-41-1, Pyridine nucleotide oxidoreductase  
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)  
(pyridine nucleotide dehydrogenase based biosensor electrodes)  
IT 1312-43-2, Indium oxide 1332-29-2, Tin oxide 7439-88-5, Iridium, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-33-7, Tungsten, uses 7440-44-0, Carbon, uses 7440-57-5, Gold, uses 7782-40-3, Diamond, uses 13463-67-7, Titanium oxide, uses  
RL: DEV (Device component use); USES (Uses)  
(pyridine nucleotide dehydrogenase based biosensor electrodes)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-4 (Enzymes)  
TI Interpreting the Catalytic Voltammetry of an Adsorbed Enzyme by Considering Substrate Mass Transfer, Enzyme Turnover, and Interfacial Electron Transport  
ST NADH ubiquinone oxidoreductase adsorption electrode catalytic voltammetry  
IT Oxidation  
(enzymic; model for voltammetric behavior of subcomplex I $\lambda$  during NADH oxidation incorporates kinetics, substrate mass transfer, and interfacial electron transport)  
IT Electron transport  
(interfacial; model for voltammetric behavior of subcomplex I $\lambda$  during NADH oxidation incorporates kinetics, substrate mass transfer, and interfacial electron transport)  
IT Enzyme kinetics  
Mass transfer  
Voltammetry  
(model for voltammetric behavior of subcomplex I $\lambda$  during NADH oxidation incorporates kinetics, substrate mass transfer, and interfacial electron transport)  
IT Adsorption  
(protein, electrode surface; model for voltammetric behavior of subcomplex I $\lambda$  during NADH oxidation incorporates kinetics, substrate mass transfer, and interfacial electron transport)  
IT 58-68-4, NADH  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(model for voltammetric behavior of subcomplex I $\lambda$  during NADH oxidation incorporates kinetics, substrate mass transfer, and interfacial electron transport)

IT 9028-04-0, NADH-ubiquinone oxidoreductase  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(subcomplex I $\lambda$ ; model for voltammetric behavior of  
subcomplex I $\lambda$  during NADH oxidation incorporates kinetics,  
substrate mass transfer, and interfacial electron transport)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-5 (Enzymes)

TI Reevaluating the relationship between EPR spectra and enzyme structure for  
the iron-sulfur clusters in NADH:quinone oxidoreductase

ST NADH quinone oxidoreductase structure iron sulfur cluster EPR spectra

IT ESR spectroscopy  
Electron transfer  
Escherichia coli  
(re-evaluation of the relation between EPR spectra and enzyme structure  
for the Fe-S clusters in NADH-quinone oxidoreductase of Escherichia  
coli)

IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(re-evaluation of the relation between EPR spectra and enzyme structure  
for the Fe-S clusters in NADH-quinone oxidoreductase of Escherichia  
coli)

IT 7439-89-6D, Iron, sulfur clusters, biological studies 7704-34-9D,  
Sulfur, iron clusters, biological studies  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(re-evaluation of the relation between EPR spectra and enzyme structure  
for the Fe-S clusters in NADH-quinone oxidoreductase of Escherichia  
coli)

IT 37256-36-3, NADH-quinone oxidoreductase  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(subunit NuoG; re-evaluation of the relation between EPR  
spectra and enzyme structure for the Fe-S clusters in NADH-quinone  
oxidoreductase of Escherichia coli)

L2 16 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN  
CC 3-4 (Biochemical Genetics)  
Section cross-reference(s): 7, 13

TI GRIM-19, a cell death regulatory gene product, is a subunit of  
bovine mitochondrial NADH: ubiquinone oxidoreductase (complex I)

ST sequence cattle human ubiquinone oxidoreductase apoptosis

IT Bos taurus  
Human  
(GRIM-19, a cell death regulatory gene product, is a subunit  
of bovine mitochondrial ubiquinone oxidoreductase (complex I))

IT Gene, animal  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(GRIM-19; GRIM-19, a cell death regulatory gene product, is a  
subunit of bovine mitochondrial ubiquinone oxidoreductase  
(complex I))

IT Mitochondria  
(complex I; GRIM-19, a cell death regulatory gene product, is a  
subunit of bovine mitochondrial ubiquinone oxidoreductase  
(complex I))

IT Protein sequences  
cDNA sequences  
(of cattle ubiquinone oxidoreductase; GRIM-19, a cell death regulatory  
gene product, is a subunit of bovine mitochondrial ubiquinone

oxidoreductase (complex I))

IT Interferons  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (β, induces ubiquinone oxidoreductase; GRIM-19, a cell death  
 regulatory gene product, is a subunit of bovine mitochondrial  
 ubiquinone oxidoreductase (complex I))

IT 9028-04-0, NADH:ubiquinone oxidoreductase  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (GRIM-19, a cell death regulatory gene product, is a subunit  
 of bovine mitochondrial ubiquinone oxidoreductase (complex I))

IT 303817-41-6 408490-49-3  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (amino acid sequence; GRIM-19, a cell death regulatory gene product, is  
 a subunit of bovine mitochondrial ubiquinone oxidoreductase  
 (complex I))

IT 302-79-4, Retinoic acid  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (induces ubiquinone oxidoreductase; GRIM-19, a cell death regulatory  
 gene product, is a subunit of bovine mitochondrial ubiquinone  
 oxidoreductase (complex I))

IT 300761-17-5, GenBank AF286697 360345-67-1, GenBank AJ316011  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (nucleotide sequence; GRIM-19, a cell death regulatory gene product, is  
 a subunit of bovine mitochondrial ubiquinone oxidoreductase  
 (complex I))

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):end

=> fil stnguide

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST  | 18.83            | 22.21         |

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|----------------------|------------------|---------------|
| FULL ESTIMATED COST  | 0.24             | 22.45         |

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FILE LAST UPDATED: 13 Jul 2008 (20080713/ED)

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=> s mitochondri## (2a) complex

179452 MITOCHONDRI##  
1421511 COMPLEX  
778330 COMPLEXES  
1729181 COMPLEX  
(COMPLEX OR COMPLEXES)  
L3 5513 MITOCHONDRI## (2A) COMPLEX

=> s nq01

L4 25 NQ01

=> s catalytic

456151 CATALYTIC  
6 CATALYTICS  
L5 456155 CATALYTIC  
(CATALYTIC OR CATALYTICS)

=> s electric?

1389713 ELECTRIC?  
1142379 ELEC  
401 ELECS  
1142491 ELEC  
(ELEC OR ELECS)  
L6 1897520 ELECTRIC?  
(ELECTRIC? OR ELEC)

=> s electrod##?

'#' TRUNCATION SYMBOL NOT VALID WITHIN 'ELECTROD##?'  
The truncation symbol # may be used only at the end of a search term.  
To specify a variable character within a word use '!', e.g., 'wom!n'  
to search for both 'woman' and 'women'. Enter "HELP TRUNCATION" at an arrow prompt (=>) for more information.

=> s pyridine

225496 PYRIDINE  
16210 PYRIDINES  
L7 230215 PYRIDINE  
(PYRIDINE OR PYRIDINES)

=> s nad#

L8 84910 NAD#  
=> s nicotinamide  
23358 NICOTINAMIDE  
431 NICOTINAMIDES  
L9 23475 NICOTINAMIDE  
(NICOTINAMIDE OR NICOTINAMIDES)

=> s complex  
1421511 COMPLEX  
778330 COMPLEXES  
L10 1729181 COMPLEX  
(COMPLEX OR COMPLEXES)

=> s module  
69447 MODULE  
33599 MODULES  
L11 88029 MODULE  
(MODULE OR MODULES)

=> s subunit  
172960 SUBUNIT  
108511 SUBUNITS  
L12 227292 SUBUNIT  
(SUBUNIT OR SUBUNITS)

=> d his

(FILE 'HOME' ENTERED AT 13:19:14 ON 14 JUL 2008)  
FILE 'HCAPLUS' ENTERED AT 13:19:39 ON 14 JUL 2008  
FILE 'CAPLUS' ENTERED AT 13:19:58 ON 14 JUL 2008  
E 2006-551144/APPS  
FILE 'HCAPLUS' ENTERED AT 13:20:49 ON 14 JUL 2008  
E HIRST J/AU  
E HIRST JUDY/AU  
L1 57 S E3  
L2 16 S L1 AND (MODULE OR SUBUNIT OR SUBCOMPLEX)  
FILE 'STNGUIDE' ENTERED AT 13:25:12 ON 14 JUL 2008  
FILE 'HCAPLUS' ENTERED AT 13:27:29 ON 14 JUL 2008  
L3 5513 S MITOCHONDRI## (2A) COMPLEX  
L4 25 S NQ01  
L5 456155 S CATALYTIC  
L6 1897520 S ELECTRIC?  
L7 230215 S PYRIDINE  
L8 84910 S NAD#  
L9 23475 S NICOTINAMIDE  
L10 1729181 S COMPLEX  
L11 88029 S MODULE  
L12 227292 S SUBUNIT

=> s L3-L4 and L5-L6 and L8-L9 and L10-L12

L13 97 (L3 OR L4) AND (L5 OR L6) AND (L8 OR L9) AND (L10 OR L11 OR L12)

=> s L13 and electrod##

713753 ELECTROD##

L14 1 L13 AND ELECTROD##

=> d scan

L14 1 ANSWERS HCAPLUS COPYRIGHT 2008 ACS on STN

CC 7-3 (Enzymes)

TI Reversible, electrochemical interconversion of NADH and NAD+ by the catalytic (I $\lambda$ ) subcomplex of mitochondrial NADH:ubiquinone oxidoreductase (Complex I)

ST NADH NAD interconversion subcomplex ubiquinone reductase mitochondria

IT Mitochondria (reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)

IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)

IT 53-84-9, NAD 58-68-4, NADH 146-17-8, FMN 7439-89-6D, Iron, -sulfur clusters 7704-34-9D, Sulfur, -iron clusters 9028-04-0D, Ubiquinone reductase, I $\lambda$  subcomplexes

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)

ALL ANSWERS HAVE BEEN SCANNED

=> fil stnguide

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST  | 13.45            | 35.90         |

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COST IN U.S. DOLLARS SINCE FILE TOTAL  
ENTRY SESSION

| FULL ESTIMATED COST | 0.06 | 35.96 |
|---------------------|------|-------|
|---------------------|------|-------|

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=> s mitochondri## (2a) complex

L15 19796 MITOCHONDRI## (2A) COMPLEX

=> s nq01

L16 164 NQ01

=> s catalytic

L17 901130 CATALYTIC

=> s electric?

L18 2812607 ELECTRIC?

=> s electrod##?

'#' TRUNCATION SYMBOL NOT VALID WITHIN 'ELECTROD##?'  
The truncation symbol # may be used only at the end of a search term.  
To specify a variable character within a word use '!', e.g., 'wom!n'  
to search for both 'woman' and 'women'. Enter "HELP TRUNCATION" at an  
arrow prompt (=>) for more information.

=> s pyridine

L19 353028 PYRIDINE

=> s nad#

L20 300162 NAD#

=> s nicotinamide

L21 75155 NICOTINAMIDE

=> s complex

L22 4799957 COMPLEX

=> s module

L23 202305 MODULE

=> s subunit

L24 977572 SUBUNIT

=> d his

(FILE 'HOME' ENTERED AT 13:19:14 ON 14 JUL 2008)

FILE 'HCAPLUS' ENTERED AT 13:19:39 ON 14 JUL 2008

FILE 'CAPLUS' ENTERED AT 13:19:58 ON 14 JUL 2008  
E 2006-551144/APPS

FILE 'HCAPLUS' ENTERED AT 13:20:49 ON 14 JUL 2008  
E HIRST J/AU  
E HIRST JUDY/AU

L1 57 S E3  
L2 16 S L1 AND (MODULE OR SUBUNIT OR SUBCOMPLEX)

FILE 'STNGUIDE' ENTERED AT 13:25:12 ON 14 JUL 2008

FILE 'HCAPLUS' ENTERED AT 13:27:29 ON 14 JUL 2008  
L3 5513 S MITOCHONDRI## (2A) COMPLEX  
L4 25 S NQ01  
L5 456155 S CATALYTIC  
L6 1897520 S ELECTRIC?  
L7 230215 S PYRIDINE  
L8 84910 S NAD#  
L9 23475 S NICOTINAMIDE  
L10 1729181 S COMPLEX  
L11 88029 S MODULE  
L12 227292 S SUBUNIT  
L13 97 S L3-L4 AND L5-L6 AND L8-L9 AND L10-L12  
L14 1 S L13 AND ELECTROD##

FILE 'STNGUIDE' ENTERED AT 13:30:34 ON 14 JUL 2008

FILE 'CAPLUS, MEDLINE, BIOTECHNO, BIOSIS, BIOTECHDS, ESBIOBASE,  
SCISEARCH' ENTERED AT 13:31:25 ON 14 JUL 2008  
L15 19796 S MITOCHONDRI## (2A) COMPLEX  
L16 164 S NQ01  
L17 901130 S CATALYTIC  
L18 2812607 S ELECTRIC?  
L19 353028 S PYRIDINE  
L20 300162 S NAD#  
L21 75155 S NICOTINAMIDE  
L22 4799957 S COMPLEX  
L23 202305 S MODULE  
L24 977572 S SUBUNIT

=> s (L15 or L16) and L17-L18 and (L19 or L20 or L21) and L22-24  
L25 283 (L15 OR L16) AND (L17 OR L18) AND (L19 OR L20 OR L21) AND (L22  
OR L23 OR L24)

=> s L25 and electrod##  
L26 1 L25 AND ELECTROD##

=> d scan

L26 1 ANSWERS CAPLUS COPYRIGHT 2008 ACS on STN  
CC 7-3 (Enzymes)  
TI Reversible, electrochemical interconversion of NADH and  
NAD+ by the catalytic (I $\lambda$ ) subcomplex of

mitochondrial NADH:ubiquinone oxidoreductase (Complex I)  
ST NADH NAD interconversion subcomplex ubiquinone reductase mitochondria  
IT Mitochondria  
(reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)  
IT Iron-sulfur clusters (protein)  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)  
IT 53-84-9, NAD 58-68-4, NADH 146-17-8, FMN 7439-89-6D, Iron, -sulfur clusters 7704-34-9D, Sulfur, -iron clusters 9028-04-0D, Ubiquinone reductase, I $\lambda$  subcomplexes  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(reversible, electrochem. interconversion of NADH and NAD by catalytic subcomplex of mitochondrial complex I in relation to FMN and [2Fe-2S] cluster)

ALL ANSWERS HAVE BEEN SCANNED

=> logoff